

Storm Data and Unusual Weather Phenomena - November 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
WISCONSIN, Southeast				
DANE COUNTY --- CROSS PLAINS [43.12, -89.63]				
	11/22/10 13:07 CST		0	Hail (0.75 in)
	11/22/10 13:07 CST		0	Source: Trained Spotter
DODGE COUNTY --- 3.0 W BEAVER DAM [43.47, -88.89]				
	11/22/10 15:10 CST		0	Hail (0.75 in)
	11/22/10 15:10 CST		0	Source: Trained Spotter
WALWORTH COUNTY --- 2.9 SSE WALWORTH [42.50, -88.57], 1.0 N ZENDA [42.53, -88.48]				
	11/22/10 15:32 CST		1M	Tornado (EF1, L: 5.33 mi , W: 100 yd)
	11/22/10 15:37 CST		0	Source: Emergency Manager
<p>A tornado moved into extreme south-central Walworth County from Illinois about 5,100 feet west of the intersection of Alden Road and State Line Road, and quickly intensified to EF-1 rating. It moved northeast for over 5 miles before dissipating about 1,700 feet southeast of the intersection of County Road BB and Zenda Road. Five homes sustained damage, with two homes severely damaged. The tornado crossed CTH B where it dog-legs east of Swamp Angel Rd. Collectively, three sheds and two barns were damaged, with one of the barns flattened. Eight wooden power poles were also snapped, along with numerous trees and fences. On one farm, 4 cows, and several chickens and turkeys were killed by tornado debris. WeEnergy Utility reported about 4000 homes without electrical power in the county due to downed power-lines. The average path length was 60 yards in width. The EF1 estimated wind speed of 105 mph was based on DI 2(FR12) DOD 4. The loss estimate was produced by Walworth County Emergency Management. The exact start location is Lat 42.49507 Lon -88.56948. The exact end location is Lat 42.53464 Lon -88.47970.</p>				
FOND DU LAC COUNTY --- 1.0 SW FOND DU LAC AIRPORT [43.76, -88.50]				
	11/22/10 15:35 CST		0	Hail (0.75 in)
	11/22/10 15:35 CST		0	Source: Trained Spotter
<p>A trained spotter reported 3/4 inch hail. The consistency of the hail was mushy and soft.</p>				
KENOSHA COUNTY --- 2.3 NNE BRIGHTON [42.66, -88.09], 3.0 NNW PARIS [42.67, -88.07]				
	11/22/10 16:01 CST		2K	Tornado (EF0, L: 0.87 mi , W: 125 yd)
	11/22/10 16:02 CST		0	Source: NWS Storm Survey
<p>An EF0 tornado developed north of Brighton, about 1/2 mile southwest of the intersection of County Line Road and 224th Avenue. This tornado moved northeast into southern Racine County across County Line Road, about 1,700 feet to the east of the intersection with 224th Avenue, and quickly intensified to EF-1 rating. A pole shed sustained minor roof and siding damage. Otherwise, damage was limited to mainly trees along the slightly more than 3/4 mile long path that averaged 75 yards wide. The EF0 estimated wind speed of 80 to 85 mph was based on DI 28(TS) DOD 4. The exact start location is Lat 42.66253 Lon -88.08841. The exact end location is Lat 42.66995 Lon -88.07447.</p>				
RACINE COUNTY --- 1.4 WSW UNION GROVE [42.67, -88.07], 1.0 ENE FRANKSVILLE [42.76, -87.90]				
	11/22/10 16:02 CST		5M	Tornado (EF1, L: 10.57 mi , W: 150 yd)
	11/22/10 16:15 CST		0	Source: Law Enforcement

Storm Data and Unusual Weather Phenomena - November 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>This tornado is a continuation of a segment that started in Kenosha County. It quickly intensified to an EF-1 rating after moving into Racine County. It moved into southern Racine County about 2.3 miles southwest of Union Grove, around 1,700 feet to the east of the intersection of County Line Road and 224th Avenue. The tornado moved northeast before dissipating near the intersection of County Highway K and County Highway H, about 1/2 mile southeast of Franksville. There were no fatalities, but 2 people were injured in storm-related vehicle accidents. Newspaper articles indicated they were hospitalized. Union Grove bore the brunt of the damage. Eleven buildings, fencing, and trees were damaged on the Racine County Fairgrounds. Large oak trees in Old Settler's Park, which is the northwest corner of the Racine County Fairgrounds, were hit hard. Across the street (STH 11), two businesses had large pieces of roof covering peeled off. One of these, Grove Gear, had about 10,000 square feet of it's roof ripped off, which allowed rain to damage the inside offices and equipment. Newspaper articles indicated that damage to Grove Gear alone was about \$1.4 Million. Two other businesses also had roof and siding damage. A residential-care facility had several of its buildings damaged. Around 100 homes in the Village of Union Grove sustained light to moderate damage to roofs, windows, and/or siding, and numerous trees were either uprooted or had large branches broken or snapped. Numerous gas leaks in and around Union Grove were reported. Only one home was extensively damaged and had to be demolished. A semi-trailer truck overturned on Interstate 94 near State Highway 20, blocking the northbound lanes, as the tornado crossed the interstate. Another semi-trailer was blown over on eastbound Highway 20 near the west frontage road next to the interstate. A number of campers were overturned and one was destroyed at the Burlington RV store at the intersection of STH 20 and Interstate-94. WeEnergy Utility estimated that 3200 customers lost electrical power in Racine County. The path of the tornado averaged 75 yards in width. A detailed examination of the tornado path suggests that this tornado consisted of three or four individual vortices, with one taking over as the previous one dissipated. Each vortex had it own path, which resulted in segmented-appearance of the tornado path as shown in the associated image attached to this severe weather episode. Although the header strip for this tornado event indicates a path length of 10.57 miles, a manual map measurement value of 10.67 miles was obtained. The total loss estimate of \$5M was received from Racine County Emergency Management. The EF1 estimated wind speed of 105 mph was based on DI 21(MBS) DOD 3. The exact start location is Lat 42.66995 Lon -88.07447. The exact end location is Lat 42.75586 Lon -87.90231.</p>				

An out-of-season round of strong to severe, surface-based, thunderstorms developed in Southeast Wisconsin during the mid-afternoon of November 22nd, which resulted in two tornadoes. This severe weather was related to low pressure lifting northeast from southwestern to central Wisconsin which brought a warm front up into southern Wisconsin. Afternoon temperatures peaked in the lower to mid 60s in the counties of Walworth, Racine, and Kenosha, with dewpoints reaching the mid to upper 50s. Instability with the unseasonable warmth just south of the warm front, with surface based CAPE values between 500 J/kg to 1000 J/kg, allowed for the thunderstorm development. Strong lift associated with the right entrance region of a 50 to 60 knot mid-level jet, strong deep layer shear and steep mid level lapse rates allowed super-cell thunderstorms with rotating updrafts to fire up along and ahead of a cold front trailing south of the low. Strong low-level shear developed just south of the warm front which led to one tornado in Walworth County and the other from far northern Kenosha County into southern Racine County around Union Grove. About 3,000 customers lost electric power due to the tornadoes and accompanying thunderstorms.

Storm Data and Unusual Weather Phenomena - November 2010

Location

Date/Time

Deaths &
Injuries

Property &
Crop Dmg

Event Type and Details



Map plots of the two EF-1 tornadoes that occurred in southeast Wisconsin on November 22, 2010. The picture insert on the lower plot shows roof damage to a business on STH 11 on the west side of the city of Union Grove.